

REMARKS/ARGUMENTS

In the Final Office Action mailed October 26, 2009, Examiner rejected claims 2-3 and 9-10 under 37 C.F.R. 112, first paragraph, and claims 1-14 under 37 C.F.R. 112, second paragraph.

By this response Applicants cancel claims 2 and 9, amend claims 1, 3-4, 8, 10, and 11, and introduce new claims 15-23, wherein new claims 15 and 18 correspond to claims 2 and 9, respectively; new claims 16-17 correspond to claims 3-4, new claims 19-21 correspond to claims 10-12, and new claims 22-23 correspond to claim 5, respectively. In making these revisions care has been taken that no new matter is introduced and the amended claims are fully supported by the specification as originally filed in the present application. The support for the new and amended claims can be found throughout the specification, in particular, in Figures 18-20 and descriptions thereof, page 16, paragraph [0039] to page 17, paragraph [0042].

Applicants believe that with the claim amendments as indicated above, the claim rejections under 35 U.S.C. 112 have been overcome since the claims now correspond to the embodiments disclosed in the specification of this application.

Further, the Examiner rejected claims 1-14 under 37 C.F.R. 103(a) as unpatentable over Ferina (USPN 5,515,199) and Koichi et al. (JP 06-104867). Claims 4 and 11, 5 and 12, 6 and 13, 7 and 14 are further rejected under 37 C.F.R. 103(a) over the same prior art combination in view of multiple other references.

Applicants appreciate the time and consideration provided by the Examiner in reviewing this application but traverse the rejections at least for the following reasons.

Rejection under 37 C.F.R. 103(a)

Farina (USPN 5,515,199) discloses a system for correcting nonlinear distortion in fiber optic systems (e.g., Abstract.)

Specifically, in Farina, an optical signal including a modulation signal is combined with an optical signal including a correction signal in optical domain. In the

present invention, an optical signal including a modulation signal is modulated with an electrical signal including a correction signal. Therefore, in Farina, the distortions are corrected at the receiver side of the system, when the optical signal including the modulation signal is detected along with the optical signal including the correction signal (e.g., column 3, lines 38-54).

In contrast, in the present invention, the distortion is corrected *at the transmitter side of the system* (see Figure 30).

More importantly, in Farina, an optical signal is modulated with a first modulation signal and there is no teaching or suggestion of *modulation by a second signal*. In the present invention, optical signal is modulated with a first modulation signal and then with a second modulation signal. In other words, in Farina, distortion with respect to the first modulation signal is corrected, wherein the distortion occurs at an optical modulator when modulating the optical signal with the first modulation signal. In contrast, in the present invention, distortion with respect to the second modulation is corrected, wherein the distortion occurs at an optical modulator when modulating the optical signal with the first modulation signal.

In this regard, Koichi (JP06-104867) discloses an optical transmission apparatus, in which an optical signal from a single optical source is modulated in series at a plurality of optical modulators with a plurality of frequency multiplexed signals, respectively. However, Koichi et al. neither disclose nor suggest a correction of distortion with respect to *a second modulation signal*, wherein the distortion occurs at an optical modulator when modulating an optical signal with a first modulation signal. Also, no such disclosure is found in the rest of the cited references.


Accordingly, Applicants believe that *no combination of the cited references, regardless of whether that combination is obvious or non-obvious, yields the invention* as originally claimed and recently amended, and that the independent claims 1, 8, 15 and 18 are novel and patentable over the prior art. Applicants maintain that dependent claims 3-7, 10-14, 16-17, and 19-23 are also novel and patentable over the prior art.

Applicants respectfully submit that the application is now in condition for allowance, which allowance is earnestly solicited.

The Commissioner is hereby authorized to charge any additional fees which may be required in this application under 37 C.F.R. §§1.16-1.17 during its entire pendency, or credit any overpayment, to Deposit Account No. 06-1135. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 06-1135.

Respectfully submitted,

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